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Infant Eye Disease Research at USU Gets Funding From Knights Templar | Biological Engineering

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6/1/2015 - TJ Robertson, right, Grand Commander, Grand Commandery, Knights Templar of Utah, presents Dr. Elizabeth Vargis with eye health research funding alongside College of Engineering Dean Christine Hailey and Robert Bennett, left, Deputy Grand Commander, Knights Templar of Utah.

Ph.D. student Cindy Hanson, left, and Dr. Elizabeth Vargis work in the Vargis Lab on the Utah State University campus. One of Vargis' research areas is related to using biological engineering tools and methods to better understand diseases of the eye.

A potentially blinding eye disorder that affects some infants born prematurely is the focus of a Utah State University study supported by the Knights Templar Eye Foundation.

Elizabeth Vargis, assistant professor of biological engineering, will receive \$59,665 from the organization to further her research into the debilitating ocular disease known as retinopathy of prematurity, or ROP.

Representatives from the Knights Templar were on USU's campus June 12 to present Vargis a check that will help fund the next stage of research in her ongoing work to better understand vision-related disease.

"This research is about developing models of eye disease by controlling retinal cell growth," said Vargis "By mimicking the way retinal cells grow under normal and diseased conditions, we can understand how diseases like this begin and progress and how they can be prevented and treated."

According to the National Eye Institute, ROP is a disorder that primarily affects premature infants weighing about two and three-quarters pounds or less that are born before 31 weeks of gestation. The disease — which usually develops in both eyes — is one of the most common causes of

visual loss in childhood and can lead to lifelong vision impairment and blindness, NEI states.

Vargis and her team at the state-of-the-art Vargis Lab on the USU campus will develop in vitro models of disease growth to better understand how the disorder leads to vascular atrophy or deterioration of the eye's internal structures. In similar research on age-related macular degeneration, Vargis demonstrated that by controlling the exact size and location of in vitro disease models, she can evaluate cell behavior and possibly identify a method to reverse the disease or prevent its escalation.

That study caught the attention of Oak Ridge Associated Universities which awarded Vargis the Ralph E. Powe Junior Faculty Enhancement Award for her innovative use of biological engineering tools and methods in the search for more answers in eye health research.

"In the biological engineering department, we have the tools and expertise to affect how biological and biomedical problems are solved," said Vargis. "I'm excited to see how our methods can help us understand, prevent and treat retinopathy of prematurity."

An initial \$49,665 was awarded June 12. An additional \$10,000 will be awarded by the Knights Templar Eye Foundation pending a progress report submitted to the organization's review committee.

Related link:

- [Vargis Lab](#)

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